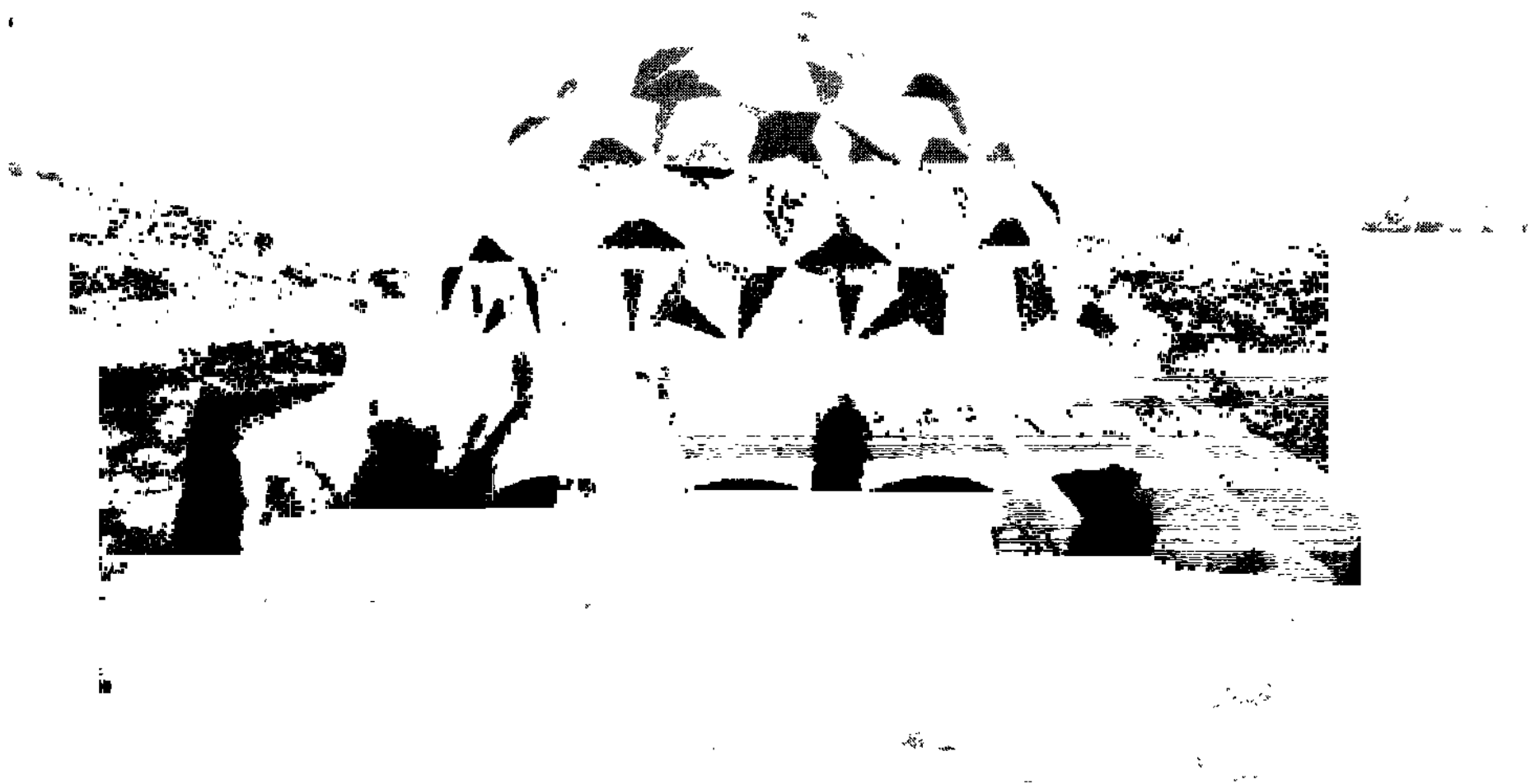


University News



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UNIVERSITY OF RAJASTHAN

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Applications are invited for the under-mentioned posts so as to reach this office on or before Monday the 21st April, 1986 in the prescribed form available from the Registrar's Office on pre-payment of Rs. 4/- (Rs. 4/- extra in case required by post). In case of persons already in employment, the applications are to be sent through proper channel.

1. **PROFESSOR** in the grade of Rs. 1500-60-1800-100-2000-125 2-2500-Suffism-1.
2. **ASSISTANT PROFESSOR** (Lecturer) in the grade of Rs. 700-40-1100-50-1600-Mathematics-2, Music-2, Urdu-2, Public Administration-5.
3. **RESEARCH ASSOCIATE** in the grade of Rs. 700-40-900-EB-40-1100-50-1300-Sociology-1.

NOTE :

1. Details of qualifications etc. will be made available with application forms.
2. The University reserves the right to increase or decrease the number of posts in any subject depending upon the requirement.
3. The University also reserves the right to consider persons in absentia for the post of Professor even though they have not applied for the post.
4. Persons selected for the posts of Assistant Professors may be posted either in Constituent Colleges or in the Institute of Correspondence Studies.
5. Applications received on plain paper/after expiry of last date or incomplete applications will be rejected without making any reference.
6. Candidates are required to apply separately for each post on prescribed form. Applications received against previous advertisements will not be considered.
7. 16% posts for Scheduled Castes, 12% posts for Scheduled Tribes Candidates are reserved and will be filled in as per rules formulated by the University in this respect.
8. Retired persons need not apply.

REGISTRAR.

BHARATHIDASAN UNIVERSITY TIRUCHIRAPALLI

Applications are invited by the Registrar, Bharathidasan University, Tiruchirappalli-620 024, upto 21-4-1986 for the following posts in the University Computer Centre :

- (1) **Head of Computer Centre.**
No. of Posts —1
Scale of Pay —Rs. 1200-1600

Qualification

First Class Master's Degree in Science or Engineering Degree in Computer Science.

Experience

Knowledge of programming languages and exposure to commercial applications and software development essential. 4 years experience of which minimum 2 years in the capacity of managing the operations of a reputed EDP centre. Experience in microcomputer based system preferable.

- (2) **Systems Engineer.**
No. of Posts —1
Scale of Pay —Rs. 1200-1600

Qualification

Engineering degree in computer science or First Class degree in Science with Master's degree in Computer Science or Computer Applications.

Experience :

Minimum 3 years experience in system design and software development. Thorough knowledge of programming languages Cobol/Fortran.

- (3) **Programmer.**
No. of Posts —2
Scale of Pay —Rs. 700-1300

Qualification

First Class degree in Science with Diploma in Computer Applications.

Experience

2 years experience in program development. Thorough knowledge of Cobol/Fortran essential.

- (4) **Computer Operator.**
No. of Posts —2
Scale of Pay —Rs. 425-700

Qualification

Degree in Science or Diploma in Mechanical / Electrical Engineering. Pass in Computer Operator course desirable.

Experience

Minimum 2 years experience in the operations of a Mini Computer system.

- (5) **Console Operator.**
No. of Posts —2
Scale of Pay —Rs. 260-400

Qualification

SSLC with typing (higher). Pass in data entry course desirable.

Experience

6 months experience in the data entry.

The University reserves the right to short-list the applications for interview.

Applications in 5 (five) copies in plain paper are to be sent in sealed envelopes with the following details and other pertinent information :

1. Name of Applicant ;
2. Address (to which communication may be sent)
3. Age and Date of Birth/ Sex.
4. Community (BC/SC/ST/FC)
5. Qualifications ;
6. Experience ;
7. Present Position ;
8. Any other information :

9. References (with names and addresses)
10. Testimonials ;
11. Signature of the Applicant.

Note :

1. Usual allowances applicable to employees of the University.
2. Scale of pay may be revised according to the guidelines of the U.G.C. in the near future

Prof. P. Manickavelu
REGISTRAR

RANI DURGAVATI VISHWAVIDYALAYA JABALPUR

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Dated : 22.3.1986

ADVERTISEMENT

Applications are invited on plain paper giving full details for the following temporary but likely to be continued posts :

S. No	Department	Post	No. of Post	Scale of pay
1.	Physics	Skilled Work man	1	Rs. 445-10-575-15-035. (Choudhary)
2.	Language Laboratory	Sr. Tech. Laboratory Asstt.	2	Rs. 550-25-750-EB-30-900 (U.G.C.)

Qualifications

Sr. No. 1 : Proficiency in general fitting work with I.T.I. Certificate in Machining, Milling, or fitting. Preference will be given to a candidate who has passed Higher Secondary with Physics and Maths

Sr. No. 2 : Senior Technical Assistant for the Language Laboratory.

Second Class B.E. (Electronics)/B.Tech (Electronics)/M.Sc. Physics with electronics/ One year Post B.Sc. Diploma in Electronics or Diploma in Electronics/B.Sc. with 3 years experience in operation and maintenance of language laboratory.

N.B. : Preference will be given to candidates belonging to Scheduled Caste/ Scheduled Tribe and other backward classes.

A suitable higher start may be considered for candidate with higher qualifications and experience.

Canvassing in any form by or on behalf of the candidate will be disqualifications.

The applications on plain paper giving full name, address, age, qualifications, experience etc. (supported with testimonials) accompanied with Crossed postal order worth Rs. 5/- payable to the undersigned, should reach here not later than 15-4-1986.

The candidates already in employment should send their applications through proper channel.

REGISTRAR

UNIVERSITY NEWS

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Editor :
SUTINDER SINGH

National Commission on Teachers in Higher Education

The Government of India appointed in February 1983 a National Commission on Teachers in Higher Education, headed by Prof. Rais Ahmed, former Vice-Chairman, University Grants Commission. Main recommendations of this Commission were recently presented to the Parliament. These recommendations are contained in Chapter VIII of the Commission's Report. This Chapter is being reproduced for the benefit of our readers.

Main Recommendations

8.01 Support to National Policy on Education

On the basis of wide ranging discussions with members of the community, students and teachers, as also with educationists the Commission has had the opportunity of going into practically every aspect of education, the educational system, the working of the institutions, the facilities available, the condition of the teachers, and the perception of all connected with the system. The data collected by the study conducted by the Central Technical Unit in the National Institute of Educational Planning and Administration has been of tremendous help to us in establishing a quantitative basis for the formulation of our ideas and recommendations. We find ourselves in complete agreement with paragraph 3 of the National Policy on Education adopted as a resolution by the Parliament in 1968, and which we quote:

"The Government of India is convinced that a radical reconstruction of education on the broad lines recommended by the Education Commission is essential for economic and cultural development of the country, for national integration and for realising the ideal of a socialistic pattern of society. This will involve a transformation of the system to relate it more closely to the life of the people; a continuous effort to expand the educational opportunity; a sustained and intensive effort to raise the quality of education at all stages; an emphasis on the development of science and technology; and the cultivation of moral and social values. The educational system must produce young men and women of character and ability committed to national service and development. Only then will education be able to play its vital role in promoting national progress, creating a sense of common citizenship and culture, and strengthening national integration. This is necessary if the country is to attain its rightful place in the comity of nations in conformity with its great cultural heritage and its unique potentialities."

We believe that a programme of action in keeping with this Resolution needs to be worked out so that teachers are seen as a part of the visualized environment. We are, therefore, constrained to make some observations about the educational system in general. In the main body of the Report, and particularly in Chapter II, we have already indicated our general view regarding education which would be related to the life of the people and especially the productive activity of our society. Hence, we will avoid arguing out points at length. We may also mention that our suggestions and recommendations are really an integrated whole because we have examined

the system as such, therefore while these recommendations are made in a certain order it doesn't mean that the last one is the least important, and that a "transformation" would be possible if only a few convenient ideas are picked up for implementation.

8.02 Pursuit of Excellence and Relevance : Curricula

In our view education as a man making and society making activity cannot be slipshod. The quest for quality must be the focus of attention and whatever distracts from it must be remedied. The basic interaction of students and teachers is around the curriculum which, in the field of higher education, has received great attention and has been the subject of much research. In our conditions, it must be considered from the point of view of modernization, since obsolescence creeps in very fast, and of relevance, since we often tend to accept whatever has been developed in other countries for their societies. Relevance is related to the needs of the individuals, to eventual employment, as well as to the needs of society, for social, cultural and economic development. The curriculum must also take into account modern theories of learning, so as to optimize the outcomes (cognitive, creative, attitudinal and social and physical skills) for each individual. Evaluation is an integral part of it, because it has the potential of shifting the focus from the objectives of learning. The methods of "teaching", or the modes of inter-action between the teacher and the learner must also be appropriate so that the objectives of the curriculum are achieved. Modern technology has opened up new possibilities of learning by one's own effort at one's own pace, and these must be utilized to achieve the best results.

Unfortunately, the situation in our country in this respect is very unsatisfactory. Curricula are not evolved by consideration other than "how to cover a course" or how to put in more material in it. They are executed basically by lecturing, unsupported by active contact with small groups or individuals. The examinations are said to be, (by various committees and commissions) neither reliable nor valid. One can well imagine the poverty of learning—but the prevailing reality is much worse. What is intended, on paper, to be "taught" is not covered since there is not enough working time in a year, lecturing often reduces to teaching from out of date notes, and in some cases, mere dictation of these notes. In examinations, a student can leave out a good part of the course altogether since questions asked in the preceding year are not likely to be repeated, and there is bound to be a 50 percent choice in answering the questions. We shall not mention other malpractices, like "copying" which are reported to be on the increase.

8.03 Enforcement of Minimum Standards

This gives us the basis to recommend that (a) centres should be established for research and development in curricula, by grouping subjects facultywise, (b) the UGC and the central and state governments should enforce the minimum standards for the award of at least undergraduate degrees—seeing to it that institutions teach a minimum of 180 days, that teachers discharge their duties in regard to lectures, tutorials, seminars, laboratories etc., and (c) examination reform be undertaken to have continuous internal assessment (by the teacher who takes the class) introduced with proper checks and records, whose weightage in the final result should be rapidly increased, (d) teachers should receive systematic but short courses of training and refreshing of their knowledge every five years or so during the course of their service. We are particularly in favour of the introduction of foundation courses in undergraduate programmes to acquaint and make our students aware of our tradition, culture, history, freedom struggle, constitution, developmental problems, the necessity of an enlightened set of values which would bring about modernity and unity irrespective of caste, creed, religion, language or region. We recommend that broad based courses and materials on these subjects may be evolved, and the UGC may cause this to be done, by selecting authors/editors and providing funds for the purpose. We recommend that application and job oriented courses should be introduced on a large scale and in greater variety with the UGC undertaking to implement its programme in this field with adequate resources, accompanied by provision of advice to institutions willing to do so, and monitoring and evaluation. The approach ought to be flexible since institutions may need to adopt different strategies for the purpose.

We shall be coming back to this aspect in a later section.

8.04 Autonomy and Major Support to Selected Colleges

The institutional set up of higher education has a big role in determining its quality. In our country, 85 percent of undergraduate and 55 percent of post-graduate education is given in the affiliated colleges whose teachers control neither the curriculum nor the evaluation of students' performance. Research facilities in these institutions are nominal or non-existent. Thus there is no outlet or occasion for their creative initiative, and they are almost reduced to being puppets under the remote control of the universities. Nevertheless, the number of such colleges keeps growing at the rate of about a hundred every year. According to the UGC's yardstick of eligibility for financial support, nearly 40 percent are "non-viable" but they continue to carry

on teaching with inadequate resources, and highly deficient facilities. We are caught in the dilemma that limited funds do not allow us to improve their working across the board, and selective support is suspect and sometimes condemned as "elitism". The autonomy of the teacher and of the institution has been accepted and advocated as a matter of policy, yet it is prevented from being exercised. In our view it is crucial for implementation of the worth-while educational programmes that the states, the universities concerned and the UGC should come together immediately to identify a few hundred colleges for consolidated high inputs with shared funding, accompanied by acceptance of reform in the nature and design of courses, teaching methods, community work, examinations and management of academic activity in cooperation with developmental departments. There may be strong colleges included in the list, there should also be colleges in remote areas, tribal regions and fulfilling other purposes of widely spreading benefits of good education. These may be declared as autonomous colleges in the first phase and their progress should be monitored and evaluated, so that in the second phase another few hundred colleges may be added to them. Since these would be colleges striving for excellence, it would be necessary to specially select students for admission to these colleges, or at least 50 to 60 percent students should be from amongst those who are talented as determined by a test. They would have to have hostel facilities to enable non-local students to take advantage of them. If 400 such colleges are selected, within a few years nearly 4 lakh students would be getting high quality education which would raise the average national standard and provide a working model of our young people interacting with the community and environment through creative work.

8.05 Distance Learning and Audio-visual Software in Libraries

We are aware that it is equally important to make higher education accessible more widely, particularly to those sections and regions who are only now arriving to enter this level of education. Many other need based courses are required to be disseminated, which may not necessarily lead to a degree. With modern technology and mass communication, it is possible to reach larger numbers, and to transform correspondence education into high quality and purposive education. The same technology can enrich formal education by providing audio or video cassettes and software to the libraries of universities and selected colleges so that students may benefit from such material. We welcome the intention of the Government of India to set up a national open university and we hope that its activities will be so designed as to take advantage of the

existing system of correspondence institutes to have an effective network reaching out to every corner of India. We also recommend that television programmes being broadcast through the satellite should be expanded and a separate channel for education may be provided in future. The UGC should give due encouragement to the setting up of audio and video software libraries in the colleges. Computer aided learning should also be encouraged and eventually software and micro computers should be made available in the higher educational institutions.

8.06 Linkages with Community and Development

In the last few decades, we have accepted in India the concept of education being brought closer to the people, their activities as well as their dreams of the future. The National Policy on Education and many other subsequent documents speak of it. The Sixth Five Year Plan document repeatedly stresses the importance of linkages between education, employment and development. In our view it is not a day too soon to give organizational and institutional shape to these linkages. Work experience in the schools, vocational courses at the +2 level, job oriented or applicational courses at the undergraduate level undoubtedly require part time teachers from the community, from the village potter, the bankman, the journalist, to the engineer or doctor; advice is needed in the development of need based courses, and sharing of facilities with existing workshops, hospitals and establishments of public or private sector industry should also be brought into the realm of possibility. Students, particularly of postgraduate and undergraduate classes could study various aspects of the environment, resources and local situation and could analyse the data so as to enrich their knowledge from first hand study and to make this material available for planning and developmental needs. Students are required to do extension work and participate in continuing education programmes for the local people, and both these activities would take them out of the four walls of the college and throw them into the field of personal experience. Then there is the area of research, of which the seed is laid by the studies mentioned above, but many problems of interest to local development such as optimum use of resources available, resolution of specific problems come across during agricultural or industrial production, or evolution of suitable technologies, for rural development in particular, can be tackled by exchange of experience and information between the scholars and researchers, and the local administration and development personnel.

In our view the setting up of district level "Education and Development Councils" would be very useful to

give shape to the linkage and coordinate activities. District councils could then be summated and coordinated by a state level council. These councils are bound to provide the knowledge base for planning and development, they will prepare the ground and the personnel for the various tasks because of actual involvement in problem solving, and they are likely to generate and adjust employment as well as entrepreneurship, not only in the sense of setting up industry but also in the sense of optimising opportunity for self-employment. We also believe that logistics of operation are very important and a working group may be set up at the Centre to work them out. Financing of this activity should not be a burden on education, and it may come out of the resources we are going to discuss next.

8.07 Resources for Education

The range of activities discussed above, all essential if education is to be transformed into an active device for national growth and integration, cannot be undertaken by the present ramshackled system with its awesome deficiencies. In our view, if we accept the challenge of transformation, we must carefully design our targets, implementational phasing and strategy, and we must be prepared to pay the bill. In the absence of this will to move forward, it is clear, to us would increase the gap between tasks and the system's ability to deliver and cause a further crisis. It is wiser to attend to the problems of resources right away. The stark reality seems to be that in spite of our declarations, the allocation for education both as percentage of the Plan and as per capita expenditure in constant value of the rupee has been declining. If the Plan expenditure has come down from 7.5 per cent in the First Plan to 2.6 percent in the Sixth Plan, ordinary arithmetic will show that a 20 or 30 percent increase (over 2.6 percent) during the Seventh Plan will not do.

The key, in our view, lies in the "linkages" we have accepted to forge. The educational system can and must serve all developmental activity through manpower preparation and research and development, continuing education and extension. Hence, every expansion and diversification development activity visualized and allocated for in a Plan must visualize corresponding inputs for education. The simplest step would be to set apart, say 5 percent of every allocation, for a development sector in order to cater for its manpower, R&D, and operation of suitable links and interaction with research and education. A major part of this must go to the educational sector in order to strengthen and transform it in the desired direction. We strongly advocate a policy decision to treat education as an investment in development.

We have also to modify the processes by which funds flow into actual activities. It is common knowledge that even though States may be spending "25 percent" of their budget on education, it is barely enough to pay the salaries of teachers, which are so low indeed. The States must adopt policies to support and consolidate existing institutions (without a tremendous amount of red tape) before having unplanned proliferation. The universities, in turn, will have to modify their financial rules so that money received by them is not held up in their bank, but it goes to the basic units, (such as the departments) and investigator for whom it is meant. Devolution of financial authority is urgently needed so that people and the basic units can function with greater autonomy and expedition.

8.08 Management of Institutions

All the educational changes and reforms, with all the money at our disposal will prove ineffective, and may be counterproductive, if the system lacks coherence, if afflicted with lack of discipline, and suffers from poor work ethics or plain unwillingness to work conscientiously. The over view which we have been privileged to have and our concern with end results or performance of the system leads to say that a two-fold policy must be pursued: we must give the teacher a place of honour, good salary, prospects of a good career depending on performance, adequate personal and professional facilities, we must set up mechanisms to remove his specific grievances, but we must demand work and responsibility from him. The managements have to be strengthened, in order that the imbalance which has crept in between democracy and accountability is corrected. This requires modification in Acts and Statutes, and also administration without fear or favour, and accountability on the part of "managers" too. We are generally in favour of the various recommendations in this sphere made by the Review Committee of the Central Universities. We are happy to note that Vice-Chancellor's conferences have also expressed a similar view.

8.09 Living and Working Conditions

The above having been said, we are sure that both in order to attract talent to the teaching profession and to provide it an opportunity to give of its best to our students and scholars, we have to greatly improve the living and working conditions throughout the country. Therefore, we recommend that the salary scales, dearness allowance, promotional opportunities, working conditions as well as service conditions, such as particularly study leave and sabbatical leave must be uniform for the whole country, except for hardship

allowances in difficult areas such as, Ladakh, Lahaul Spiti, northeastern region etc.

We recommend enhanced non-practicing allowance to teachers in all medical institutions (where private practice is not allowed) so that differential in the earnings is reduced and there is greater satisfaction and mobility. Teachers who are required to do emergency duty or have to do night duties ought to be provided staff car facilities.

We recommend that in view of the late entry of teachers into service (at the age of about 25 for M.Phil. and 28 for Ph.D. entrants), they must be given a higher start when they join the post of Lecturer. In our view one increment for M. Phil. entrants and three for Ph.D. entrants should be adequate. A similar formula for professional faculties may also be adopted.

Since nearly 84 percent of college teachers and 60 percent of university teachers are provided no housing; since a good proportion has to share even bathrooms with other families in spite of spending a third or more of their income on such houses, we recommend that a major programme of faculty housing should be taken up during the Seventh Plan with two conditions: (i) the housing provision may not be according to "entitlement" it should be the minimum functional accommodation with bathrooms and kitchens, perhaps small flats; (ii) 20 percent of the new housing must be reserved for new appointments of people who do not belong to the place or state where the institution is situated: this will contribute to mobility and thereby also to national integration. We recommend that at least 25 percent additional teachers may be provided housing facility of the above kind during the Seventh Plan and a similar percentage during the plan after that. It is suggested that a fund of Rs. 250 crores may be created for giving loans to institutions at a nominal rate of interest, say 4 percent or so. This provision will generate a saving on house rent allowances, which may be combined with house rent contribution of teachers to be ploughed back into the revolving fund.

Housing facilities are required not only during service but also on retirement, hence house building loans are required. We suggest that a revolving loan fund for each institution should also be provided; at the same time 20 to 30 percent of the money provided by financial institutions may be earmarked for teachers. Land should also be earmarked by State Governments for constructions of private houses by teachers, as has been generally done for other employees.

We also recommend there should be a loan facility for teachers to buy a conveyance. This is a necessity arising from the inadequacy of the public transport system.

It is obvious that the teacher has to study if he has to keep up with growing knowledge and if he has to prepare properly to lecture to his students. We find that at present a large proportion of teachers can neither study at home due to paucity or congested housing, nor can he study or meet his students (outside the class) in the place of work. In fact, lack of working space in the institutions is cited as an important reason for teachers leaving the colleges soon after their classes. We recommend that lockers should be provided for all teachers to keep their records and student assignments and cubicles should be constructed for at least 25 percent undergraduate college teachers who can share them in each college or department. All postgraduate teachers should have a cubicle each. In our view, 8 or 9 sq. metres would be sufficient for such a purpose. This requires about 1.5 lakh cubicles and about 150 crores should be provided for the purpose, this requirement being the most urgent.



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Absence of medical facilities which are available to most other categories of employees, is another distraction and burden on teachers, which we have discussed in the relevant chapter. Our recommendation is that wherever such free facilities are not available in colleges and universities, a medical allowance of Rs. 50 per month may be given to the teachers for spending on minor ailments. For major diseases like cancer or TB, heart ailment, accidents, etc. where hospitalization is required, the full cost must be met by the institutions and leave on full pay should also be given for such period.

We have already made recommendations in the relevant chapter on the necessity of providing retirement benefits like contributory provident fund, gratuity, pension and group insurance to teachers. Leave facilities, particularly study leave, sabbatical leave, maternity leave, and travel facilities, such as, home travel concession and leave travel concession have also been recommended to be uniformly available to all teachers, on the lines of the central universities.

The present world depends for its very existence on communications. Yet, though they are supposed to be the Class I grade, teachers at home and in the institutions have almost no access to telephones. We recommend that such facilities must be strengthened in the colleges and the universities. Every college should at least have a public call office, and at least all teachers who are Readers or above should have an extension of the city telephone available in their cubicles/rooms so that they can communicate with the outside world and vice versa. We also notice that teachers generally have no access to secretarial service or reprography. We recommend that in every college or a university department a typist should be available, perhaps for every 10 or 15 teachers who may be working there, and there should be a type writer and at least a duplicating machine as reprographic support. Within a few years, we are sure, xerox will also be available in the colleges/departments because it is no more a luxury and indeed helps to strengthen teaching.

Amongst the tools of the trade for the teachers are books. Today's teachers are often not broadly read, partly because books are too expensive to buy. A book in a teacher's own shelf is a great source of inspiration and strength to him. We recommend a book subsidy for teachers: if they buy upto Rs. 500 worth of books every year, they could be given 50% of the cost as a subsidy.

There has been a demand from teachers for providing their children schooling facilities. We understand that the Central Government is going to set up central schools in every district. Since in our Interim Report

we had recommended the setting up of such schools, in part, to help teachers' children to get educated, since mobility greatly depends on this factor, we again recommend that such schools should give high priority to the admission of teachers' children. We feel this will make the teachers take greater interest in maintaining high standards and in bringing about the school-community linkage.

We have recommended that District Education and Development councils should be set up. These councils are bound to have various committees, on which teachers should be represented, at least on a 50-50 basis, i.e. half the council members may be from amongst teachers, the other half being from industry, agriculture and other developmental institutions or departments and administrators. These councils would not only contribute to development and improvement of education, but also they will give teachers opportunity to participate in wider socio-economic activities, and the benefit of their knowledge will be available for development and planning. It is this position of vantage which can lend the much needed "status" to teachers basically a feeling that society cares for their competence.

8.10 Work Environment

In Chapter V, we have had to combine a discussion of the existing situation with a number of suggestions and recommendations. We see no point in enumerating or briefly mentioning the recommendations here, because in the process, much of force of argument will be lost. The strengthening of libraries with text books and reference material and also in selected cases with audio instructional tapes and supporting material has been mentioned. The necessity of enlarging the UGC's faculty improvement programme for young teachers, particularly college teachers has been recommended. Great stress has been laid by us on improving research facilities by way of libraries and laboratories, and by creating linkages with District/Regional needs of development of production and establishment of social services, research on curriculum and new teaching methods has been emphasised. In this connection teacher orientation programmes, research seminars/schools/workshops/conferences are very important; more of them should be instituted and travel of teachers to such programmes should be encouraged. In this connection teachers in far away places and hilly areas should be especially cared for since their geographical position becomes a handicap, we recommend special grants for teachers in such areas to enable them to spend 4 to 6 weeks of vacation time in more central and developed institutions. We laid great stress on the freedom of the teacher in his research, teaching and extension,

and this can come about through autonomous functioning of colleges, which therefore, must be especially encouraged by state governments, universities and the UGC in "development consortium". We have extensively discussed the participation of teachers in running and managing many activities, under the basic premise that freedom entails responsibility. We have, in fact, advocated both academic and financial autonomy for selected colleges and university departments. We have advocated that governing bodies should be accountable too : they should govern, and they should not be free to be partial or parochial or inefficient or, so to say to, misgovern. We have explained how we see the role of Teachers' Associations, and the necessity of their taking serious interest in the professional performance of their members. The question of code of conduct or norms of behaviour, or what have been called unacceptable conduct has been discussed and we believe that teachers and their associations should readily agree to a clear definition of the role and responsibility of teachers. A mechanism for prompt redressal of grievances has also been suggested. We firmly believe that all these steps will greatly contribute to improvement in the atmosphere of work in our institutions.

8.11 Professional Excellence

We are of the view, that it is extremely important to make a rigorous merit-based selection for the entry level of the teaching profession, and we are happy to observe that this corresponds with the opinion of a vast majority of teachers. It has also been widely advocated that the fragmentation of the educational system on the basis of language, region, caste and religion should be counter-balanced by some selections on the basis of a widely cast net. Hence we have recommended an All India Test and only those who have obtained grade B+ in such a test on a seven point scale, should be eligible for consideration. The other qualifications prescribed by the UGC should continue and the UGC may incorporate the requirement of B+ in the All India Test as minimum qualification prescribed for recruitment. There would be an advertisement and screening in the manner we have described in Chapter VI and the normal selection committees would make the selection. We have recommended, that there should be three external experts, two of whom should form part of the quorum of the selection committee. Other details are given in Chapter VI. Furthermore, we have recommended that at least 25 percent of appointments should be outside the concerned state. Such a step, in our view, will help in bringing people of different cultures/languages, to work together. We are against prolonged ad hoc and temporary appointments, because

they cause both personal and institutional harm and hence they should be kept at the minimum level in numbers and duration, as recommended in detail.

We are aware that the use of the Test will take a couple of years to come about and hence the rule above should be gradually introduced. Since a pre-Ph.D. test is already in vogue, within a few years, M.Phil. and Ph.D's with the Test record will be available.

We are also of the firm view that all appointments at higher levels, such as those of Readers and Professors, should be by open selection on a genuinely all India basis—we have indicated that, in case of regional languages, time should be given to teachers to acquire competence. In fact, for the highest grade of professor, we have advocated a national selection.

At the same time, we have recommended that each of the categories, Lecturers, Readers and Professors (or Assistant Professors, Associate Professors, and Professors—which nomenclature we prefer) should have a number of clear grades, and a person of average performance (not a non-performance) should be brought before a proper selection committee so that, if found fit, the person may enter the next grade. We have called this the average path. Our insistence is that every such selection must be based on assessment of "professional development."—which should be well-defined in terms of the variety of activities which teachers are expected to have—teacher-student interaction-research and creative activity of a variety of kinds—community/extension activity—committee involvement, attending/organizing professional conferences/workshops and participating in institutional work etc. (a sample proforma is attached). Quite obviously, this requires keeping of careful annual records, self assessment, student and peer assessment and observations of the head of the college/department. This mechanism, if well implemented would make a teacher have several promotions in his service, reaching 75 percent of the highest salary that anyone can get.

We have also considered those who do very well indeed. Our recommendation is that they can be selected, by the process we have described, two years before they reach the maximum of their grade, to enter grade of the same denomination or title. Process is, in a sense, more strict because there is a tendency in the system to push the ordinary in the place of the extraordinary and to care more about seniority than about merit. We also recommend that the various grades of Lecturer/Assistant Professor should also be available to colleges, and in the case of post-graduate colleges, the grades of Reader should be available in each subject—but there would be an open all India selection for these posts. In some cases, after due scrutiny, posts of professor may also be made available to postgraduate colleges.

We have advocated mobility of teachers through reservation on new housing, and by recommending that teachers should be able to carry their service benefits from one university/college to another. There is such a provision for teachers in central universities and, in fact, between them and centrally funded autonomous institutions and government. We recommend the States to accept the same liberal view to enable teachers to move to places from where they can perform the best.

We have also advocated interrupted careers for women teachers, so that they can come back to full time or part time work, when their family conditions allow. An interruption of upto five years may be tolerated and part time appointments given during that time.

The system as it is, in our view, handicaps women from contributing satisfactorily to the profession. In the same spirit, we recommend the setting up of creches for babies/children either by institutions conjointly or by themselves where this is possible.

Once again we would state that we have the dual task of persuading people and their government to provide teachers many necessary and strongly deserved benefits, while their image is not very bright, and at the same time persuading teachers to make greater effort in shouldering many challenging responsibilities, while they have their grouses and a measure of frustration. But only in this, we believe, we can transform education to become an instrument of social change and greater personal fulfilment. □

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
May 2-15, 1986	Summer School on Crystal Growth, Characterisation and Device Fabrication	An orientation course in (i) Experimental Crystal Growth; (ii) Theories of Crystal Growth; (iii) Nucleation; and (iv) Characterisation	Crystal Growth Centre, Anna University, Madras	Dr. P. Ramasamy, Crystal Growth Centre, Anna University, Madras
May 8-10, 1986	National Seminar on Interaction between research in Universities and Industries	To identify the industries where University research can play an important role and find out ways and means of active interaction between research in Universities and Industries	University of Delhi, Delhi	Dr. Yogesh Kumar, Department of Physics and Astrophysics, University of Delhi, Delhi
May 13-31, 1986	Orientation Programme on better utilization of irrigation resources	To acquaint the participants with the processes and problems relating to irrigation schemes, water management, rehabilitation, etc.	Centre for Social Studies, South Gujarat University, Surat in collaboration with Deptt. of Economics, M.S. University of Baroda	The Course Director, Centre for Social Studies, University Campus, Surat
May 19-24, 1986	Refresher course for practitioners in psychiatric social work	To acquaint the faculty members with advances in psychiatric social work	National Institute of Mental Health & Neuro-Sciences, Bangalore	The Director, NIMHANS, P.B. No. 2900, Bangalore
May 19-June 1, 1986	Summer School on Crystal Growth and Characterisation of Advanced Materials for Solid State Applications	An orientation course in (i) Experimental Crystal Growth; (ii) Theories of Crystal Growth; (iii) Nucleation; and (iv) Characterisation	Crystal Growth Centre, Anna University, Madras	Dr. P. Ramasamy, Crystal Growth Centre, Anna University, Madras
May 26-June 21, 1986	Summer School in Analysis and Probability	Topics covered are : Probability theory and Stochastic processes; Fourier analysis on R^n ; and Functional analysis.	Indian Statistical Institute, Calcutta	In-charge, Summer School 1986, Stat-Math Divn., Indian Statistical Institute, Calcutta
July 7-18, 1986	Short-term training programme on Abstracting and Indexing	Application of abstracting and indexing methods, use of vocabularies in indexing, construction of indexing language (thesaurus) for information system	National Institute of Small Industry Extension Training, Hyderabad	Mrs. K. Subhashini, Course Director, NISIET, Yousufguda, Hyderabad

Professional Course in Test Construction

—A Proposal

S. P. Kulshrestha*

Ram Ji Sriyastava*

Test construction is the most neglected area of psychology and Education. It is to be regretted that no institution, college or university department is making any systematic effort to develop this area. Rather, the work on test construction is considered as inferior to all other researches at doctorate level by many professors of psychology and Education who discourage scholars undertaking projects on test construction. Such a state of affairs led to the production of poor quality tests. Test Bulletin No. 14 of NCERT substantiate the statement that most of the tests need improvements with regards to construct, items, reliability, validity, norms, scoring, etc. Varma (1984) has summarized all these deficiencies in her two papers. The mimeographed report of Institute for Studies in Psychological Testing has also pointed out the deficiencies related to the construct, item selection, reliability, validity, norms and manual style etc., related to value tests in print. Psychometrists have discussed these issues through various forums, but there have been no systematic efforts in tests improvement.

The Educational Psychology Unit of NCERT is taking interest in this area of test construction and organizing workshops and seminars on test construction and related issues. It is high time that we should think seriously of the improvement of existing tests as well as developing quality tests. It is necessary to give practical training to the Scholars in test construction. They should be given opportunities to work in Test laboratories, besides the theory course. The main focus of such training should be on imparting practical skills in test construction.

It is generally observed that the management institutions and associations organize special short duration courses in organizational psychology and related skills like developing leadership motivation techniques, developing social relations etc. Such short duration as also long duration courses in test construction and related themes should also be planned. To set the ball rolling, a detailed proposal for a special Professional Course in Test Construction to be organised under the auspices

of the NCERT is presented for consideration and comments of the scholars in the field.

(1) **Name of the Course :** Special Professional Course in Test Construction (SPTC).

(2) **Objectives :** The objectives of this course may be laid down as follows :

- (1) To bring about qualitative and quantitative improvements in the area of test construction.
- (2) To train personnel in the skills needed for test construction.
- (3) To provide opportunities to students to work in the top psychological testing laboratories under expert guidance.
- (4) To provide background in test construction as also orientation to researchers in test construction.
- (5) To familiarize students with latest trends and advances in testing and test construction process.

(3) **Nature of the Courses :** It will be a contact-cum correspondence course of nine month's duration with one month's internship. There can be three contact programmes of two weeks duration for each candidate. The first should be in the beginning of the course to orient the SPTC and to introduce the course outline etc. The second may be after 4 months to clarify doubts and remove difficulties of the candidates, and the third should be planned at the end of the course for final examinations, viva voce etc. There should be atleast 2 lessons per month to be sent regularly to each candidate followed by regular assignments. These assignments should be checked regularly and returned to the candidates within 10 days of their receipt with corrections, if any, and detailed suggestions for improvement. The course may have 40% external and 60% internal evaluation. A test construction project should be made compulsory for each candidate. All the assignments and projects should be submitted before the commencement of final examination.

(4) **Eligibility :** The teachers and research scholars, who are interested in this area, and have atleast a master's degree in any subject may be considered eligible for

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this course. However preference may be given to persons with master's degree in Education or Psychology.

- (5) **Number of Seats :** Numbers of student should not exceed more than 20 in one session.
- (6) **Fees :** Some nominal fees may be charged from the candidates to cover the postal expenses etc.
- (7) **Instructional Material :** The NCERT should provide printed lessons on every topic, related to each paper. Some abstracts of articles/research papers, abstracts of books, and reprints of important researches should be sent to the candidates. Some standard books and the list of recent books on Test and Testing may also be sent to each candidate.
- (8) **Staff :** The Educational Psychology Unit of NCERT may start this course with the help of one course cell. There may be one Reader, one Lecturer and two Academic Assistants.
- (9) **Course Content :** A sample course is proposed below :

Sl. No.	Name of the Paper	Marks
1.	History & Problems of Testing	100
2.	Methodology of Test Construction	100
3.	Research & New Trends in Test Construction	100
4.	Reporting, Interpreting & Communicating Results	100
A.	Project work	200
B.	Practicals & Sessional Work	200
C.	Internship	200

- (10) **Examination Scheme :** There can be 60% internal and 40% external weightage in each paper. The marks for practicals, sessional work, term papers and assignments should be fixed. These should be purely internal. In external examinations, all the three types of tests—objective, short answer and long answer—should be included. The long answer type questions should be based as far as possible on the practical and operational side. Internal marks should be assigned on the basis of the performance of the students throughout the year with reference to their attendance in contact programmes, interest and the worth evidence during the course.

Internship Programme: After completing the course, the candidate should be attached to any psychological testing laboratory of national level, for a month's period, where he should be asked to collect/frame the items, select the appropriate items, establish reliability and validity, and norms using available data. The detailed report of the successful candidates should be submitted to the Incharge of the course.

Final Certificate : May be given to the candidates after completing the course and internship programme successfully.

NCERT being an apex body, should take the responsibility of planning and conducting such courses.

Model Course Design

Institute of Studies in Psychological Testing (ISPT), Dehradun has framed the following course design, and submitted for approval of Garhwal University.

1. Name : **Postgraduate Diploma in Psychological and Educational Testing**
2. Duration: : One year
3. Nature: : Correspondence-cum-contact course
4. Papers :
 - (I) History of Testing Movement
(with special reference to India) : 100 Marks
 - (II) Principles & Procedures of Test Development : 100 Marks
 - (III) Plan and Procedure for Test Standardization : 100 Marks
 - (IV) Techniques of Test Selection : 100 Marks
 - (V) Test Administration : Principles & Procedure : 100 Marks
 - (VI) Analysis & Interpretation of Test Scores : 100 Marks
 - (VII) Communication of Test Results : 100 Marks
 - (VIII) Research in Testing & Test Development : 100 Marks

PRACTICALS

A. Sessional Work

- (a) Construction of various types of test items : 20 Marks
- (b) Item analysis of test items using atleast five different techniques : 20 Marks
- (c) Comprehensive review of atleast five tests : 20 Marks
- (d) Preparation of annotated bibliography on tests, testing and allied areas : 20 Marks
- (e) Administration/scoring/analysis of atleast five tests : 20 Marks

- B. **Test Project :** Each participant is required to develop and standardize one test : 75 Marks
- C. **Viva-Voce** : 25 Marks
- D. Discussion/performance during the year : 100 Marks

Mode : Ten months' correspondence and two months contact programme. □

Sri Sathya Sai Institute Planetarium :

A Modern Space Theatre

On November 22, 1985, the Sri Sathya Sai Institute of Higher Learning achieved the unique distinction of being the only university in India to have a modern Space Theatre (Planetarium) for educational purposes. The Space Theatre, built in record time of six months, was inaugurated by Bhagwan Sri Sathya Sai Baba on November 22. The dome of the theatre is faceted like a diamond and painted in nine different colours. The ground floor foyer is to be used for an exhibition which will explain what the viewers in the space theatre will see.

The Space Theatre is equipped with a planetarium instrument package manufactured by Spitz Space Systems of U.S.A. The instrument package consists of the most sophisticated main projector, an array of 21 ancillary special effects projectors, a sophisticated sound system, and a high quality 15 metre tilted hypospheric dome of perforated aluminium. The main projector is the latest in the Spitz 512 series and has been equipped with an advanced automation system. It has multiple capabilities for recording and playing automatically complex planetarium shows. The theatre is centrally air-conditioned and can accommodate 186 viewers at a time.

This Space Theatre uses a tilted hyposphere, a recent innovation in planetarium projection permitting unidirectional viewing like any other theatre. The viewers observe events in the same direction as they are sitting and at eye level. Thus they become participants in the programme. The theatre has facilities which permit its use as a classroom also. It is well equipped with automated multimedia facilities which provide opportunities for multi-purpose interdisciplinary use beyond the realm of astronomy.

With primary, secondary, and

university education at one complex at the Sri Sathya Sai Vidya Giri, the Space Theatre will act as a catalyst in not only creating interest but also in increasing the understanding of the basic concepts of astronomy, mathematics, physics, history, physical geography, literature, and other disciplines. In unique and unusual ways, it inserts time, space, and motion into a variety of classroom studies ranging from astronomy and mathematics to history and literature.

The instrumentation system employed in this space theatre provides a star field of 4054 images including 88 recognised constellations and 57 navigational stars besides globular and open star clusters, milky way, Magellanic clouds, nebulae etc. with its advanced automation system and 21 special effect projectors almost any celestial or meteorological observation can be reproduced on the sky indoors.

In this "Space Age" the space theatre has assumed the position of a "Space Science Laboratory" as vital to the understanding of the physical universe as the physics and chemistry laboratory.

The planetarium is an optical, electrical and mechanical, educational simulation device that projects and moves stars and other celestial objects across a dome ceiling in order to create the illusion of a night sky. As such, it is an astronomy classroom and laboratory that is as vital a part of science education as the sciences—biology, chemistry and physics. It has provided the solution to a long standing problem in astronomy education by producing a star filled sky regardless of weather, season, time of day, or location of the viewer.

The indoor, time condensing universe of the planetarium can reproduce almost any observation that can be seen outdoors with the

naked eye. The following astronomical concepts are among those demonstrable in a planetarium: celestial sphere, diurnal motion, constellations, circumpolar constellations, seasonal constellations, latitude observations of stars, apparent stellar magnitudes, ecliptic motion of Sun, reflected motion of earth's rotation & revolution, obliquity of the ecliptic, seasons, solstices and equinoxes, changing sunrise and sunset points, changing noon altitudes of Sun, latitude observations of the Sun, orbit of moon, synodic and sidereal periods, regression of nodes, lunar phases, solar and lunar eclipses, time systems and sundials, celestial coordinate systems, inferior and superior planets, eastern and western elongations, direct and retrograde motions of superior planets, precession of north celestial pole, precession of the equinox, observational changes due to precision, etc.

The programmes contemplated for the entire range of education are: concept of earth size, the causes of day and night, astronomy of solar system, seasons, apparent and true motion of Sun and earth, moon and its phases, solar and lunar eclipses, concept of direction and navigation, map study, stars and planets, units of time, time zones, and sundials; constellations and zodiacal signs, astronomy of the stars and the planets, the motion of celestial bodies in the universe and galaxies; and plane geometry (the mathematics of the circle), world history (Indian, Middle East and Chinese mythology), world geography (celestial navigation and physical geography), stellar and planetary movements, tracking the stars, beyond the nearby stars and development of ancient civilisations.

Located in a rural setting this Space Theatre will also serve to educate rural masses by designing special programmes to educate them in science and technology and remove superstition and fear. □

BANASTHALI VIDYAPITH

[Member : Association of Indian Universities
Association of Common-Wealth Universities]
(GOLDEN JUBILEE 1935-85)

Banasthali Vidyapith, the National institution for women's education, has been doing pioneering work in its field over last half a Century. Its attempt is to bring about an all round development of students personality expressing a synthesis of the spiritual heritage and scientific achievement of the East and the West. The Vidyapith lays great stress on value inculcation and character building and emphasis on Indian Culture, thought and conduct and balance between individual freedom and social responsibility characterise Vidyapith's ethos.

The Vidyapith invites applications for the following positions :

DEPARTMENT OF ENGLISH : Professor 1, Reader 1, Lecturer 1.

DEPARTMENT OF HOME SCIENCE : Professor 1 (Child Development/Food & Nutrition), Reader 1 (Food & Nutrition/Child Development), Lecturers 6 (Food & Nutrition 1, Biochemistry 1, Food Technology 1, Home Management 1, Clothing & Textile 1, Extension 1).

DEPARTMENT OF MUSIC : Professor 1 (Vocal/Instrumental-Hindustani), Lecturer 3 (Vocal/Sitar-Hindustani/Musicology)

DEPARTMENT OF DRAWING AND PAINTING : Professor 1, Reader 1 (Specialisation preferred-Aesthetics).

DEPARTMENT OF EDUCATION : Professor 1, Lecturers 2 (Specialisation subject—Home Science/Sanskrit/English Music).

DEPARTMENT OF HISTORY : Lecturer 1 (Modern India).

DEPARTMENT OF SANSKRIT & VEDIC STUDIES : Professor 1 (Sanskrit) Lecturers 3 (Vedic Studies—Sahityacharya/Vyakaranacharya/Vedacharya/Yajurveda).

DEPARTMENT OF SOCIOLOGY : Professor 1, Lecturer 1.

DEPARTMENT OF POLITICAL SCIENCE : Professor 1, Lecturer 1 (International Politics).

DEPARTMENT OF TEXTILE DESIGNING : Reader 1 (Weaving/Printing), Studio Assistant 1 (Weaving).

DEPARTMENT OF CHEMISTRY : Lecturers 2 (Analytical 1, Inorganic 1).

DEPARTMENT OF MATHEMATICS AND STATISTICS : Lecturer 1 (Statistics).

DEPARTMENT OF GERMAN : Lecturer 1.

DEPARTMENT OF ZOOLOGY : Lecturer 1.

DEPARTMENT OF PHYSICAL EDUCATION : Lecturer 1.

DEPARTMENT OF COMPUTER SCIENCE : Reader 1, Lecturer 1, Programmers 2.

DEPARTMENT OF PHYSICS : Lecturer 1.

DEPARTMENT OF ELECTRONICS : Lecturer 1.

QUALIFICATIONS : As prescribed by the University Grants Commission. Qualifications for Computer Science.

Textile Designing and Vedic Studies will be supplied on request.

PAY SCALE : (With approximate initial emoluments in brackets):

Professor : 1500-60-1800-100-2000-125/2-2500. (2910/-).

Reader : 1200-50-1300-60-1900. (2610/-).

Lecturer : 700-40-1100-50-1600 (1854/-).

Programmer : 700-40-900-40-1100-50-1300. (1854/-).

Studio Assistant : 820-20-900-25-1000-30-1300-40-1500-50-1550 (Government Grade) (1420/-).

Dearness Allowance at Rajasthan Government rates. Provident Fund, Gratuity-cum-Insurance, Group Insurance benefits on confirmation.

Notes : 1. Teachers must become habitual wearer of Khadi on appointment.

2. Vidyapith reserves the right not to fill any post advertised or to increase or decrease the number of vacancies.

3. Selection Committee may recommend higher start, higher grade in exceptional cases on merit.

4. First Class return fare for the post of Professor and Second Class fare for others will be paid to persons appearing for interview.

Application on prescribed forms in seven copies must reach the Secretary, Banasthali Vidyapith, P.O. Banasthali Vidyapith (Rajasthan) 304022 by 7th May, 1986. Forms can be obtained by sending Postal Order of Rs. 10/-.

Inter-University Environment Training Camp

Bhavnagar University organized under the auspices of National Service Scheme a 10 days' Inter-University Environment Training Camp at lovely Hiran River Campus inside the forest near Sasan Gir for the youth of colleges affiliated to the various universities in Gujarat State.

Conservation and improvement of the environment being vital for the survival and well being of mankind, the camp intended to create an awareness among the youth and the society about the basic ecological principles, enable the youth to identify and analyse the root cause of the ecological problem, particularly relating to human activities and the biosphere.

In all 110 boys and girls from seven universities stayed in huts just in the middle of the wildlife and away from the human population. The students enjoyed this fabulous experience in the natural habitat of wildlife like Lions (239), Panthers (291), Spotted deer (10,467), Hyaena (84), Sambar (772), Blue bull (2081) and Chinkara (971).

Prof. R.V. Pandya, Vice-Chancellor of Bhavnagar University appreciated the large gathering of students for learning about the marvels of nature just out of their four walls of classroom. He narrated the earlier status of dense Gir Forest and its wildlife and felt unhappy with the present status of the forest with poor vegetation and wildlife in the area. He urged the students to initiate and develop NSS parks in their college campus to balance the nature.

Dr. B.R. Pandit, of Life Sciences Department, Bhavnagar University, critically discussed the biosphere, function and dynamics of many ecosystems, food chain and ecological balance with emphasis on energy

crisis. He also explained how the air and water are polluted and stressed the urgent need of preservation of wildlife, creating active interest in tree plantation to minimise the soil erosion and to avoid floods. He pleaded for regulation of the use of insecticides and pesticides, otherwise their higher concentration will be fatal to flora, fauna and specially for mankind.

During the nature trekking every day the students were divided in three groups for vegetation survey, bird watching and animal study. They collected plant and insect specimens and learnt about the preparation of herbarium and preservation techniques. Crocodile breeding centre at Sasan informed the students about the breeding of crocodile right from the egg stage to the maturity. Visiting Ayurvedic garden in Sasan students experienced the common innocuous medicinal plants like **Gymnema** for diabetes, **Rauwolfia** for blood pressure and many more plants important from pharmacognosy point of view.

The most popular Japanese method of 'Bonsai' treatment to the trees, decoration by cactus, dry flower arrangements and aquarium development were also demonstrated.

Every morning the students were given lectures on yoga and demonstration of yoga techniques by Mr. R.J. Jadeja, Director of Physical Education, Bhavnagar University, who stressed the need of a healthy and fit body for enjoying and studying nature in all climatic conditions. Once the body is robust one can fight against any pollution hazard by using yoga.

Mr. Balapatel taught about the insect, bird watching and discussed number of interesting points regarding animal behaviour.

A number of competitions were arranged for the participants to involve them in thinking about nature and afford them greater exposure to wildlife and environment preservation. They had nearly one competition per day. The competitions were (i) Drawing of an ecosystem (piece of nature), (ii) Photography of nature, (iii) Quiz on environment, (iv) Slogan for environment preservation, (v) instant elocution, (vi) Identification of plants, animals and birds, (vii) Essay writing on preservation of environment, (viii) Collection of plants, insects, etc., (ix) Discussion on "Know your wildlife", (x) Best participant, (xi) Huts decoration by using vegetation, feathers, dry wood pieces, stones, etc.

The students of South Gujarat University, M.S. University of Baroda and Sardar Patel University were on top in these competitions.

Mr. Rasikbhai Shukla, Vice-Chancellor, Saurashtra University, who delivered the valedictory address, congratulated the students for their keen involvement in camp and getting acquainted about the global vital problems of environment preservation. He called for spreading the message of environment preservation to each and every corner of Gujarat State to achieve the aims and objectives of their ten days' hectic training. Mr. Narve. Dy. Conservator of Gir Forest promised students all help in forming Nature Club, Forest Club, Tree Club, etc. in their own college to educate the youth of the area.

Some of the recommendations that emerged at the training camp were :

- (1) Environmental training must be made compulsory at all levels of education;
- (2) The colleges may be provided with audio-visual facilities to have more effective teaching on environment preservation;

- (3) To arrange exhibition and film show for the college youth and public in the area about environment, wildlife, forest, etc.;
- (4) Formation of 'Forest Club', 'Tree Club', 'Wildlife Conservation Club', 'Bird Watchers' at the college level;
- (5) To survey flora and fauna of the area with their local names;
- (6) Preparations of herbarium and preservation of birds, insects, animals with local names and technical names in NSS room of the college;
- (7) To develop hobby for 'Bonsai' and cactus for interior decoration; and
- (8) Tree plantation and management project for college campus.

WRDTC workshop on manpower development

As part of its Tridecennial Celebration, the Water Resources Development Training Centre (WRDTC) of the University of Roorkee organised a workshop on the Role of WRDTC in Development of Manpower in the Region. Eminent resources experts, trainee engineers and ex-faculty of the Centre participated in the deliberations of the workshop. The keynote address was delivered by Dr. Kanwar Sain, former Chairman of the Central Water Power Commission.

After detailed discussion, the following recommendations were made at the workshop:

- (1) Since the Centre is undertaking education and research in all aspects of water resources (development and management) and works on an international pattern, its name should correctly reflect its character. It is suggested that the name of the centre be changed to International Water Resources Institute [IWRI].
- (2) The Centre should be provided with all facilities and environment to permit it not only to maintain its leadership in the field of water resources education and research, but also to grow in a way that it can meet with the needs likely to arise at the turn of the century. The Centre should continue to serve the needs of developing countries and act as a focal institution in the region.
- (3) In view of the large expansion of the Centre which is mandatory to enable it to serve the needs of the 21st Century, and the constraints of space in the present location, the re-location of the institution to a more appropriate place may be considered by an expert committee. The take over of the Centre by Central Govt. and grant of autonomy in its functioning also need to be given early consideration.
- (4) While it is necessary to develop into areas of emerging technologies so as to maintain its leadership, the centre should retain specialization in applied fields like dams, power houses and canal systems.
- (5) The status and emoluments of faculty and staff should be de-linked from the University pattern and should reflect the high professional status of the institution, so that people with adequate professional experience and high capability in the field are attracted to positions in the institution.

Guru Nanak Dev Chair of comparative religion inaugurated

Giani Zail Singh, President of India, inaugurated the Guru Nanak Dev Chair of Comparative Religion and Philosophy at the Guwahati University recently. In his inaugural address the President emphasised

the need for comparative study of the teachings of great Gurus, Saints and Acharyas as that would help us understand the unity of universal brotherhood and strengthen the unity and integrity of the country. The President was happy to note that the establishment of a chair named after Guru Nanak at the Guwahati University was in reciprocity of the establishment of saint Sankardev Chair at Punjabi University at Patiala. He lauded this effort towards promoting cultural exchange between regions which contributed to the strengthening of ties of brotherhood based on eternal values like truth, compassion, love and service.

Open University for West Bengal

An Open University in West Bengal would start functioning from December this year. This was announced by the Higher Education Minister Shri Shambhu Ghosh in Calcutta recently. The University will be independent in character and would be located somewhere in Kalyani, the Minister added.

We Congratulate...

- (1) Dr. Bhagat Singh who has taken over as Vice-Chancellor of the Punjabi University, Patiala, with effect from 25th March, 1986.
- (2) Mr. R.C. Sharma who has taken over as Vice-Chancellor of the Gurukul Kangri Vishwavidyalaya, Haridwar.
- (3) Prof. V.D. Gupta who has taken over as Vice-Chancellor of the Gorakhpur University with effect from 3rd March, 1986.
- (4) Dr. N. S. Randhawa, Director-General, Indian Council of Agricultural Research, New Delhi, who has been conferred the Diploma of Foreign Membership by the Soviet Union's V.I. Lenin All Union Academy of Agricultural Sciences.

Third World Academy Award

In recognition of the quality teaching courses and research of the Guru Nanak Dev University in the field of science, the Third World Academy of Science, with its headquarters at International Centre for Theoretical Physics at Trieste (Italy) has donated 1000 US Dollars for instituting an award for young scientists in the University to promote research. This has been informed telegraphically by Prof. Abdus Salam, Nobel Laureate, Director of the Academy to Dr. H.S. Virk, Professor and Head of the Department of Physics of the University.

The Academy has also donated 1000 US Dollars for creating a Centre for promotion of Science in the State of Punjab with its headquarters at the Guru Nanak Dev University, Amritsar. This would-be Centre, when established, an important research centre in the field of science in the northern region.

Kerala journalists visit JNKVV

A 16-member team of journalists from Kerala visited the Jawaharlal Nehru Krishi Vishwa Vidyalaya recently. The Vice-Chancellor of the University Prof. S.V. Arya took the team around various research and veterinary farms and explained in detail the research, extension and teaching work being done at the Vishwa Vidyalaya. The journalists appreciated the work of scientists involved in the research activities. They however suggested that the Vishwa Vidyalaya should develop more seed production units, fisheries, forestry and vegetable crops unit so that they could be more useful to the farmers and the general public.

MCA Course at TKM Engg. College

The Government of India has approved the introduction of a 3 year Post-graduate course in Com-

puter Applications (MCA) at T.K.M. College of Engineering, Quilon under the Kerala University. The course is proposed to commence in July 1986 with an intake of 30 students.



Film study centres in universities & colleges

The University Grants Commission will provide assistance for setting up film study centres in the universities and colleges to increase awareness of film as a modern art form and to promote the use of the medium of cinema for social communication and education among students.

The revised guidelines, approved by the Commission, provide that the proposed film study centres will arrange exhibition of Indian and foreign film classics, organise discussions, symposia, lectures and courses and arrange publication of literature on any aspect of film for the promotion of film culture. These centres will also take measures to relate film as a subject to other relevant subjects like Fine Arts that are being taught at the campus.

Later, when some of these film study centres will have acquired sufficient experience, they will be elevated to original film centres which will be required to (i) maintain stocks of film prints for circulation to film study centres in the region, (ii) organise training programmes for the teacher-coordinators incharge of study centres (iii) arrange publication of reading material about films and develop audio visual aids for use with the

films, and (iv) collaborate with other organisations both in the country and abroad for the improvement of films study work in the university system.

A Central Cell will also be set up at Pune with the collaboration of the University Grants Commission, Poona University, the National Film Archive of India and the Film and Television Institute, Pune which will be responsible for the working of the film study centres and the regional centres at the national level. Besides it will also ensure the constant supply of films and specially produced "distance education" material and arrange training programmes, conferences and seminars etc.

The Commission organised a four-week workshop at Pune from 13th May, 1985 to 10th June, 1985 in collaboration with the Film and Television Institute of India (FTII), Pune, National Film Archives of India, Pune and University of Poona to impart training in the art of film appreciation. 24 teachers from various universities/colleges took part in training programme.

Each film study centre, will get a non-recurring grant of Rs. 35,150/- and recurring grant of Rs. 21,400/- in the first year of its establishment. In the second and subsequent years, it will receive only recurring grant.

Prize money as sports incentive

Apex body for physical education

The first all India convention of All India Physical Education and Allied Teachers Federation was held in Delhi on March 22 & 23, 1986. The convention considered in depth the multifarious problems being faced by the profession of physical education and, inter alia, recommended setting up an Apex Body in the name of Central Board of Physical Education. The important functions of the proposed body were suggested as : (i) to look into the problems of physical education, (ii) to suggest ways and means to

improve the existing standards at the school and college levels and, (iii) to activate the various agencies working in the field of physical education. The Convention was of the view that though physical education embraces a nation building programme and is an integral part of education yet it has been neglected field so far. The convention recommended to the Government that out of the total outlay of Rs. 300 Crores for the 7th Plan Period, adequate funds should be diverted for the development of sports and physical education. It was also recommended that physical education should be given approp-

The Govt. of India has introduced a Scheme of "Prize Money" as sports incentive, to encourage sports at the grass root level. The quantum of prize money is Rs. 10,000/- which will be given to the school winning the first position at the District Level Tournament in each discipline, included in the scheme, separately for boys and girls. Initially this scheme will be applicable only in the selected games of Athletics, Hockey, Football, Basketball & Volleyball and will cover only upto district level for schools located both in the rural and urban areas □

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Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month' while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research scholars and students of education are welcome to use these resources. The Library is open from 9-30 a.m. to 5-30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

A list of Doctoral Theses Accepted by Indian Universities

HUMANITIES

Philosophy

1. Das, Dipty Moyee. *Gandhi's doctrine of truth and non-violence : A critical study*. NTHU, Shillong.
2. Das, Parthasarathi. *A study of Collingwood's philosophy of history*. RBU, Calcutta.
3. George Victor, Pasalapudi. *Social philosophy of vedanta*. Andhra U, Waltair.

Fine Arts

Drawing

1. Singh, Vjat Pal. *Hasya evam vyang chintan : Ek adhyayan Delhi ke pramukh hasya evam vyang chitrakaron per adharit*. Meerut U.

Music

1. Chowdhury, Monoranjan Roy. *Mongal kayer sangirik raishikha*. RBU, Calcutta.

2. Swami, Prem Lata. *Prachin Bharatiya tal siddhant: Udbhav aur vikas*. Meerut U.

Dance

1. Kothari, Sunil. *Dance Sculptures of some medieval temples of North Gujarat with special reference to the natyashastra tradition and sangitopnishatyaaddhara*. RBU, Calcutta.

Language & Literature

English

1. Behera, Rama Chandra. *Sherwood Anderson : A study in naturalism*. Utkal U, Bhubaneswar.
2. Bhandari, Mangat Rai. *A thematic study of the plays of Harindranath Chattopadhyaya*. Meerut U.
3. Hathi, Yogeshkumar Pramodrai. *E.M. Forster : A study of his novels with reference to his theory and practice of fiction*. SPU, Vallabh Vidyanagar.
4. Korde, Bajrang Sukhdeorao. *A critical study of the novels of Phillip Roth*. Marath U, Aurangabad.
5. Misra, Shubhra. *An analysis of errors made by a group of under-graduate students of Madhya Praaesh and its pedagogical implications : An applied linguistic study*. IIS Gour, Sagar.
6. Patel, Roopa. *A study of P.G. Wodehouse as a novelist with particular reference to his humour*. RDV, Jabalpur.
7. Raghavan, F. *The romantic strain in English poetry, 1900-1950*. SKU, Anantapur.
8. Sharma, Brahma Dutt. *The projection of the oriental philosophies in the 'Beat' writers with special reference to Jack Kerouac Allen Ginsberg and Gary Snyder*. D.Lit. Meerut U.
9. Singh, Haripriya. *The theme of quest in the novels of Saul Bellow*. Utkal U, Bhubaneswar.

Punjabi

1. Kanwar, Prian Singh. *New criticism and its influence on Punjabi literary criticism*. U Delhi.
2. Sukhbir Singh. *Forid Bani da himb vidhant. adhyayan*. U Jammu.

Hindi

1. Chaturvedi, Shakuntala. *Devraj : Vyaktitva aur sahitya*. APSU, Rewa.
2. Gupta, Bena Rani. *Mamta Bhandari ke katha sahitya mein paribartk jeevan kee samasyaon mein*. Meerut U.
3. Haribaran Unnithan, V.K. *A linguistic and stylistic study of Jaimintha Kumar's Traspotra*. U Ker, Trivandrum.
4. Ugtap, Waman Gangadram. *Hindi upanyason mein sarvadhara rang sam 1960 se 1975 tak*. Marath U, Aurangabad.
5. Janamajaya Singh. *Hindi nibandh ke vikas mein Acharya Hazari Prasad Dwivedi ka sthan*. Mag U, Bodh Gaya.
6. Minocha, Anita. *Mahadevi Verma ke karya mein himb vidhan*. Meerut U.
7. Paul, Shakuntala Bhauran. *Yashpal and his works with special reference to sex*. Marath U, Aurangabad.
8. Phoolwar, Shri Ha Chandra Joshi ke upanyason ka manasatvanti adhyayan. Meerut U.
9. Pradeep Kumar. *Dinkar ke karya-sahitya mein saundarya vidhan*. Meerut U.
10. Rubella, Shashi. *Idkaleen Hindi sahitya mein vakya rachana ke svaroop*. U Delhi.
11. Sangam, Mahantappa Ningappa. *A comparative study on Kabir and Shishur J Shairi*. Kar U, Dharwad.
12. Sharma, Ramesh Chandra. *Hindi native parampara mein Jagdish Chandra Akhtar ka yogda*. Meerut U.
13. Singh, Om Vra. *Athien dastak ke Hindi upanyason mein vya samasyaon sam 1971 se 1980 tak*. Meerut U.
14. Singh, Sri Bhagwar. *Jawaharlal Nehru aur adhunik Hindi sahitya*. JNU, Delhi.
15. Singh, Suman. *Neeti karya parampara aur Giridhar Kavi Rai*. APSU, Rewa.
16. Singh, Vinna. *Praxad ke pravarti nikasik natikon mein nari man ngyan*. APSU, Rewa.
17. Sood, Neeraj. *Sana, manovrovan ke sandarb mein Jainendra ka kathasahitya*. Pb U, Chandigarh.
18. Surenbra Kaur. *Tar sapta karya sangrahon kee shilpsan-rachna ke narsen avant*. Meerut U.
19. Swarnkar, Manharan Lal. *Itasi dhara prakshepit jeevan mulya aur vichardhara : Ek samshlehan*. HS Gour, Sagar.

20. Usha Rani. *Khart boli nichakavyon ke nari patra, 1900-1936*. U Delhi.

21. Verma, Adarsh Kumar. *Himachal lekhaik evam unka Hindi kathasahitya : Samajshastriya adhyayan, san 1948 se 1980*. Meerut U. Urdu

1. Mohammad Shafi Hassan. *Existentialism in urdu nazm*. U Bihar, Muza'farpur.

Bengali

1. Amatul Laila Zaman. *Saogat petrikar sahityik-o-samayik bhunika, 1981-1950*. U Calcutta.

2. Bandyopadhyay, Ranajit. *Banglar parikendrik andolan-o-sahityatar prariphala, 1850-1900*. U Calcutta.

3. Bhattacharjee, Purabi. *Madhusudan's influence on modern Assamese literature*. Gauhati U.

4. Samadhar, Santipriya. *Bangla kathasahitya hasyaraser char shilpi Keda.nath Bandyopadhyay, Rajsekhar Basu, Parimal Goswami, Bibhuti Bhushan Mukhopadhyay*. RBU, Calcutta. Assamese

1. Misra, Tikutama. *Assamese renaissance as reflected in literature, 1826-1926*. Gauhati U.

Marathi

1. Chingre, Chandrashekhar D. *Linguistics and socio cultural problems of translation from English into Marathi*. U Poona.

2. Dendekar, Sanjay G. *Some points of contact between early Buddhism and Upasads*. U Poona

3. Gosavi, Raghuvir R. *Samarath sampradaya virachit pracheen Marathi samarth chavite: Ek abhyas*. U Poona.

4. Kalawat, Sharad Kshiram. *Marathi vangmayacha vachak anityahi vangmayeen abhiruchi*. Amravati U.

5. Kolhapure, Gopinath Balkrishna. *A study of influence of the Mahabharata on Marathi drama*. Shivaji U. Telugu

1. Girita Lakshmi, K. *Telugu chandovyakarana samanavaya samalochanamui*. Nagavijana U.

Geography

1. Ghosh, Banani. *Satellite towns of Calcutta*. U Calcutta.

2. Nath, M.L. *The Upper Chambal Kshirpuram Basin : A study in rural settlements*. Vikram U, Ujjain.

History

1. Budholia, Veena. *Chalukya Jayasimha : Siddharaja and his times, 1094-1142*. RDV, Jabalpur.

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6. Singh, Indumati. *Jainism in Magadha*. Mag U, Bodh Gaya.

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8. Tulsi Ram. *Soviet policy towards Communist Movement in Asia : A case study of Iran, 1917-1949*. JNU, Delhi.

Balan, K. *Youth power in the modern world*. Delhi, Arianta, 1985. 56p.

Bandura, Albert. *Social foundations of thought and action : A social cognitive theory*. New Jersey, Prentice-Hall (c1986) xiii, 617p.

Bhat, K.S. and Ravishankar, S. *Administration of education : New perspectives and viewpoints*. Delhi, Seema, 1985. xv, 468p.

Bhday, M.R. *From isolation to mainstream : Higher education in India*. New Delhi, Radiant, 1986. xii, 314p.

Blackledge, David and Hunt, Barry. *Sociological interpretations of education*. London, Croom Helm (c1985) ix, 353p.

Brake, Michael. *Comparative youth culture : The sociology of youth cultures and youth subcultures in America, Britain and Canada*. London, Routledge & Kegan Paul, 1985. x, 228p.

Burlewarth, C and Macdonald, M. *Teaching social education and communication : A practical handbook*. London, Hutchinson, 1985. 335p.

Cohen, Louis and Holliday, Michael. *Statistics for social scientists: An introductory text with computer programs in BASIC*. London, Harper & Row, (c1982) xxi, 382p.

Datta, N. *Academic status for university and college librarians in India*. Delhi, Indian Bibliographies Bureau (c1985) 208p.

Gelpi, Ettore. *Lifelong education and international relations*. London, Croom Helm (c1985) 206p.

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Kuldeep Kaur. *Education in India 1781-1985 : Policies, planning and implementation*. Chandigarh, Centre for Research in Rural and Industrial Development, 1985. 543p.

Mehta, Harooabhai and Patel, Hasmukh, ed. *Dynamics of reservation policy*. New Delhi, Patriot, 1985. 320p.

Mohammad Akhlag Ahmad. *Traditional education among muslims: A study of some aspects in modern India*. Delhi, B.R. Publishing, 1985. v, 216p.

Pant, A.D. and Gupta, Shiva K., ed. *Multi-ethnicity and national integration: A politico-anthropological view*. Allahabad, Vohra, 1985. vi, 292p.

Parvathanma, C and Satyanarayana. *New horizons and scheduled castes*. Delhi, Ashish, 1984. ix, 184p.

Piaget, Jean. *Equilibration of cognitive structures : The central problem of intellectual development*. Chicago, Chicago University Press (c1985) xiii, 160p.

Rajagopalan, T.S. ed. *Ranganathan's philosophy: Assessment, impact and relevance*. New Delhi, Vikas, 1986. xxvi, 690p.

Rao, Sudha V. *Education and rural development*. New Delhi, Sage (c1985) 334p.

Roberts, Kenneth. *Youth and justice*. London, Allen & Unwin (c1983) 210p.

Rubinstein, Moshe F. *Tools for thinking and problem solving*. New Jersey, Prentice-Hall (c1986) xi, 330p.

Scheffer, Israel. *Of human potential: An essay in the philosophy of education*. Boston, Routledge & Kegan Paul, 1985. viii, 141p.

Schuster, Frederick J. *Human resource management : Concepts, cases and readings*. Corginal, Boston (c1985) xi, 660p.

Shukla, Sureshchandra and Krishna Kumar. *Sociological perspective in education : A reader*. Delhi, Chanakya, 1985. viii, 350p.

Stufflebeam, Daniel I and others. *Conducting educational needs assessment*. Boston, Kluwer-Nijhoff (c1985) xiv, 229p.

Suri Singh. *Comparative study of the concept of human nature*. Jalandhar, ABS, 1986. v, 536p.

Vakil, A.K. *Reservation policy and scheduled castes in India*. Delhi, Ashish, 1985. x, 203p.

Wakhla, G.N. and Lohar, G.L., ed. *Shaping the technology era*. Delhi, B.R. Publishing, 1985. xv, 141p.

Watson, Keith, ed. *Key issues in education: Comparative perspectives*. London, Croom Helm, 1985. x, 126p.

Applications are invited on plain paper alongwith attested copies of the testimonials, for two posts of Junior Research Fellowship, @ Rs. 1000 - P.M. (fixed) in the UGC's Research Project entitled, "Studies on Pollutant-grown algae and their evaluation for the use as animal feed", the tenure of which is 3 years.

The candidates should possess a high second class Master's degree (in Botany) with a second class Bachelor's degree or a second class Master's degree with 1st class Bachelor's degree and have cleared UGC's National Educational Testing examination. Preference will be given to those having research experience in Plant Bio-chemistry/Physiology.

Applications should reach Dr (Mrs.) Saroj Dua, Principal Investigator, Department of Botany, Panjab University, Chandigarh by 15.4.1986.

MMG 3199

A N N O U N C E M E N T

Professor Hira Lal Chakravarty Awards—1986

Applications in prescribed forms are invited from Indian Scientists, below 40 years of age on December 31, 1985 and with Ph.D. degree for outstanding published work in any branch of Botany for Professor Hira Lal Chakravarty Awards of Rs. 4,000/- each given by the Indian Science Congress Association. Forms and necessary information are available at the Indian Science Congress Association, 14, Dr. Biresw Guha Street, Calcutta-700017. Last date of submitting application is July 15, 1986.

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The final selection of Junior Research Fellows will be made on the basis of an entrance test and those called for the test will be paid to and fro second class train fare from their place of residence to Madras. Selected Junior Research Fellows will be paid a fixed monthly stipend of Rs. 1,000/-, which is likely to be increased. The admission will be initially for a period of one year and the continuation of the fellowship will depend on the candidate's academic progress.

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(B) Engineering & Mining Machinery	Assistant Professor-Three	(1) Mechanical Engg. (2) Opencast Mining Machinery. (3) Beneficiation Equipment. Drilling Engg.
(C) Petroleum Engineering	Lecturer One Professor One Assistant Professor One	Pet. Engg. (Mech. Engg. Background).
(D) Fuel & Mineral Engineering	Professor Two Assistant Professor Two	(1) Mineral Engg. (2) Fuel Engg. (1) Mineral Equipment. (2) Mineral Equipment.
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(F) Applied Science	Assistant Professor Two Lecturer Two	(1) Computer Sciences. (2) Physics. (1) Ceramic (2) Physics (Nuclear)
(G) Industrial Engineering & Management	Lecturer One	Economics (with specialisation in Econometrics).
(H) Electronics & Instrumentation	Professor One*	Instrumentation.
(I) Centre of Mine Environment	Assistant Professor One* (*Lien vacancies) Professor Two Assistant Professor Four Lecturer Three	Electronics. (1) Physical Environment (2) General Environment. (1) Physical Environment. (2) Biological Environment. (3) Socio-Economic Environment (4) General Environment. (1) Biological Environment. (2) Socio-Economic Environment (3) General Environment. Mineral Economics.
(J) Centre of Mineral Resources	Assistant Professor One	

2. QUALIFICATIONS

(A) PROFESSOR

An eminent scholar with published work of high quality actively engaged in research with ten years experience of teaching and/or research of which five years should have been as Assistant Professor or in a position of equivalent responsibility. Experience of guiding research at Doctoral level.

An outstanding scholar / Engineer/Technologist with established reputation who has made significant contribution to knowledge/engineering practice.

(B) ASSISTANT PROFESSOR

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(b) About five years experience of teaching and/or research and development of

which three years should have been as Lecturer or in a position of equivalent responsibility.

(c) Evidence of having been actively engaged in (i) research or; (ii) innovation of teaching method, or (iii) production of teaching material.

OR

In the case of posts in engineering subjects, candidates from the industry or professional fields should possess good academic record with recognised professional work of about seven years.

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(c) One year's relevant professional experience outside academic/research institutions.

Provided that having regard to the requirements of emerging fields and of developing inter-disciplinary programmes, the requirement of Engineering/Technology degree may be waived in the cases of candidates otherwise well qualified.

Provided further that if a candidate who does not possess one year professional experience aforesaid or the Master's degree is appointed as a Lecturer, he shall be required to obtain the desired professional experience/Master's degree within a period of five years of his appointment, failing which he shall not earn future increments until he has fulfilled the said requirement(s).

OR

(C) LECTURER (in Science/Applied Science subjects).

(a) A doctorate degree or research work of equally high standard.

(b) Consistently good academic record with 1st or high 2nd class (B in the seven-point scale). Master's or equivalent degree in relevant subject.

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Provided that if the Selection Committee is of the view that the research work of a candidate (as evident either from his thesis or from his published work) is of very high standard, it may relax any of qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctorate degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (suitable weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory/organisation, on the condition that he will have to obtain a Doctorate degree or give evidence of research work of equivalent high standard within five years of his appointment failing which he shall not earn future increment until he fulfils the said requirements.

3. Pay & Allowances and Age Limit

Post	Upper age limit	Scale of pay(Rs.)	Salary (Rs.) at	
			Min of pay, scale	Max of pay-scale
Professor	50 years	1500-2500	3,140	5,025
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Lecturer	35 years	700-1600	1,882	3,260

A higher start in the scale may be given in special and deserving cases. Upper age limit relaxable in respect of candidates otherwise considered suitable.

Detailed information and prescribed Application Form may be had free-of-charge from Registrar, Indian School of Mines, Dhanbad-826004, by sending a self-addressed envelope of size 30cmx12cm) duly affixed with stamps worth Rs. 4.05.

Application in the prescribed form complete in all respects should reach the undersigned on or before 23.4.86.

S.P. Varma
REGISTRAR

SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar-388120

GUJARAT

NOTIFICATION No. EST/10 (1985/86)

Applications are invited in the prescribed forms available from the University Office on payment of Rs. 5/- in cash or by Indian Postal Order for the following posts so as to reach the undersigned on or before 23-4-1986.

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(Scale: Rs. 1500-60-1800-100-2000-125/2-2500.)
(1) Physics (X-Rays)
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2. Reader each in
(Scale: Rs. 1200-50-1300-60-1600-Assessment-60-1900.)
(1) Chemistry (Industrial)
(2) Chemistry (Theoretical)
(3) Botany (Plant Pathology)
(4) Animal Science (with basic M.Sc. degree in Zoology)
(5) Sanskrit
(6) Education (Comparative Education or Philosophy of Education)
(7) Home Science (Foods & Nutrition)
(8) Economics (Preference will be given to the candidate with experience in Agro-economic surveys and application of Statistical techniques in economic analysis).
3. Lecturer each in
(Scale: Rs. 700-40-1100-50-1300-Assessment-50-1600.)
(1) Chemistry (Three posts)
(2) History
(3) English
(4) Mathematics
4. For Computer Centre
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All the posts except at Sr. No. 7 & 8 carry the benefits of Dearness Allowance, Provident Fund, Gratuity and Pension Scheme as per University Rules. Posts at Sr. No. 7 & 8 carry the benefit of Dearness Allowance only.

Preference will be given to the qualified candidates belonging to Scheduled Castes, Scheduled Tribes, Socially and Educationally and/or Economically backward class. Candidates belonging to these castes must attach a certificate from appropriate authority.

R.C. Thakkar
REGISTRAR

SHREEMATI NATHIBAI DAMODAR THACKERSEY**WOMEN'S UNIVERSITY****1, NATHIBAI THACKERSEY ROAD, BOMBAY-400 020**

Applications are invited in the prescribed forms available at the University Office on payment of Rs. 5/- (by M.O./Indian Postal Order/in Cash), for the following Posts, to be filled in at the University Departments and its conducted institutions at Bombay and Patna, so as to reach the undersigned latest by **APRIL 25, 1986**.

POSTS	NO. OF POSTS	MEDIUM OF TEACHING
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1. Director for Research Centre (In Professor's Grade)	ONE	—
2. Lecturer	ONE	—
3. Research Fellows	THREE	—
3.A Technical Assistant	ONE	—
P. Department of Post-Graduate Studies and Research, SNDT Women's University, Bombay		
4. Professor in Sociology	ONE	ENG/GUJ
5. Lecturer in Marathi	ONE	MARATHI
6. Lecturer in Hindi	ONE*	HINDI
7. Research Assistant—(For P.G. Deptt. of Gujarat—Programme of Sp. Assistance)	TWO	—
C. S.N.D.T. Arts & Smt. Champaben Bhogilal College of Commerce & Economics, Bombay		
8. Lecturer in Geography	ONE	GUJ & ENG.
9. Lecturer in Geography	ONE*	GUJARATI
10. Lecturer in Economics	ONE	ENG & MAR/GUJ
11. Lecturer in Sanskrit	ONE	MARATHI
12. Lecturer in History (Re-Advertised—II)	ONE (Reserved)	MARATHI
13. Lecturer in History	ONE	GUJARATI
14. Lecturer in Psychology	ONE (Temp.)	ENG/MAR.
15. Lecturer in Sociology	ONE (Temp.)	ENGLISH
16. Lecturer in Commerce (for P.G. Deptt.)	ONE	ENGLISH
17. Lecturer in Accountancy (Temp.) (Half time)	ONE	ENGLISH
18. Lecturer in Statistics (with M.A. M.Sc. M.Com. with Statistics) (Temp.) (Half time)	ONE	ENGLISH
D. Sir Vithaldas Thackersey College of Home Science, Bombay		
19. Professor of Child Development	ONE	ENGLISH
20. Reader in Textiles & Clothing	ONE	ENGLISH
E. S.N.D.T. College of Home Science, Pune		
21. Professor of Child Development	ONE	ENGLISH
22. Lecturer in Psychology (Temp.) (Half-time)	ONE	ENG/MAR.
23. Lecturer in Applied Chemistry (With M.Sc. in Bio-Chemistry) (Temp.) (Half-time)	ONE	ENG/MAR
24. Lecturer in Education & Extension (Temp.) (Half-time)	ONE	ENG/MAR
25. Lecturer in Physics (Temp.) (Half-time)	ONE	ENG/MAR
F. C.U. Shah College of Pharmacy, Bombay		
26. Professor of Pharmaceutical Chemistry/ Pharmacology	ONE	ENGLISH
27. Reader in Pharmaceutics/Pharmacognosy	ONE	ENGLISH
G. Leelabai Thackersey College of Nursing, Bombay		
28. Lecturer in Nursing (Psychiatric Nursing OR Community Health Nursing)	TWO	ENGLISH
H. SNDT Women's University Library, Bombay Central Library Bombay & Branch Library, Pune		
29. Junior Library Assistants	THREE (TWO* for Bombay and ONE for Pune)	—
Extension Library, Juhu		
30. Deputy Librarian	ONE	—
SHPT School of Library Science		
31. Lecturer in Library Science	TWO	ENGLISH
I. University Departments		
Department of Continuing & Adult Education and Extension Work, Bombay		
32. Assistant Director	ONE	—
33. Project Officer	ONE	—
34. Technical Assistant	ONE	—

J. Department of Students Welfare, Bombay		
35. Dean of Students	ONE	—
K. Department of Correspondence Course (Juhu Campus)		
36. Assistant Director	TWO	—
(i) Social Sciences (Soc./Eco./Pol.)	(Tenure)	
(ii) Commerce		
L. Department of Computer Science (Juhu Campus), Bombay.		
37. Reader in Computer Science	ONE	ENGLISH
38. Lecturer in Computer Science	ONE	ENGLISH
39. Technical Assistant	ONE	—
M. Computer Centre (Juhu Campus), Bombay		
40. Computer Programmer	ONE	—
N. SNDT College of Education for Women, Pune		
41. College Librarian	ONE	—

Minimum qualifications, salary scales, etc. for the posts of teachers are as per approved U.G.C. Scales and Qualifications. Applications of Scheduled Castes/Tribes/Other Nomadic Tribes, will be considered as per Government directives. For posts marked "RESERVED" and advertised upto three times, application from only reserved categories will be entertained, namely, SC/ST/ONT. Details regarding Qualifications, Experience, etc. will be available with application forms, which should be collected. Posts shown with asterisk (*) were reserved posts. They are now re-advertised as open for all categories of candidates, after third advertisement as per Government directives.

Dr. (Smt) Usha Thakkar
REGISTRAR

PANJAB UNIVERSITY

Advertisement No. 6/86

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, alongwith postal orders of Rs. 10/- by 25.4.1986. Fourteen days extra time is permissible to persons who have to submit their applications from abroad :

- Professors :** (Rs. 1500-60-1800-100-2000-125/2-2500).
Mathematics — 3
Statistics — 1
- Principal :** (Rs. 1500-60-1800-100-2000-125/2-2500).
Panjab University Evening College-1.
- Director :** (Rs. 1500-60-1800-100-2000-125/2-2500).
Directorate of Correspondence Courses-1
- Readers :** (Rs. 1200-50-1300-60-1900).
Mathematics—6
Centre for Computer Science & Applications—2.
- Lecturers :** (Rs. 700-40-1100-50-1600).
Mathematics—2 (Department of Mathematics).
English —2 }
History —1 } Panjab University
Sanskrit —1 } Evening College
Mathematics —1 }
Political Science—1 (temporary, but likely to be made permanent (Directorate of Correspondence Courses).
Library Science—1.
- Lecturer-cum-Assistant-Librarian :** (Rs. 700-40-1100-50-1600).
Library Science—1
- Research Fellows :** (Rs. 800/950/1000/- p.m. fixed) with annual contingent grant of Rs. 3,000/-.
Centre for Advanced Study in Mathematics—4.

8. **Research Fellows :** (Rs. 950/- p.m. fixed), with annual contingent grant of Rs. 3,000/-
Mathematics—1
Statistics—1

9. **Research Associate**
Centre for Advanced Study in Mathematics—1.
Category A: Rs. 1400/- p.m. (fixed)
Category B: Rs. 1600/- p.m. (fixed)
Category C: Rs. 1800/- p.m. (fixed)
Category D: Rs. 2000/- p.m. (fixed)

With facilities of annual increment of Rs. 100/- p.m. subject to the total emoluments including increments not exceeding Rs. 2,000/- per month+contingent grant of Rs. 5,000/- per year plus House Rent Allowance etc. The position is tenable initially for a period of three years extendable for another two years.

NOTE

- The Vice-Chancellor could place before the Selection Committee names of suitable persons for its consideration alongwith the applications received in response to the advertisement.
- It is not obligatory on the part of the University to call for interview every candidate who possesses the essential qualifications.
- The number of vacancies may change in response to Advt. No. 11/85 for the post of *Reader in Computer Science & Applications* need not apply again. However, they may update their Bio-data if they so desire.

Candidates who have applied earlier in response to Advt. No. 8/85 for the post of *Lecturer in Mathematics* in the Panjab University Evening College need not apply again. However, they may update their Bio-data if they so desire.

10% of the Fellowships are reserved for Scheduled Castes and Scheduled Tribes candidates provided they fulfil the minimum qualifications laid down for the award of such Fellowships. In case qualified candidates are not available the reserved Fellowships will be treated as unreserved. The candidates for Research Fellowships whose results for the qualifying examinations are not declared by the closing date, may also apply. They shall intimate their results (if otherwise eligible) to the concerned Department before the date fixed for selection.

Candidates for the posts of Professors and Readers who do not possess a doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their published work. 15% posts of Lecturers are reserved for the members of the Scheduled Castes and 7½% for the members of the Scheduled Tribes, but these will be filled up by others if no suitable Scheduled Castes/Scheduled Tribes applicant is available.

Persons already in service should route their applications through proper channel. They may, however, send one copy of their application on the prescribed pro-forma direct to the University. They will be allowed to present themselves for interview only on the production of a "No Objection Certificate" from their employers. Incomplete forms will not be considered. Forms received after the due date are liable to be rejected unless the Vice-Chancellor condones the delay by a special order. Attested copies of Certificates in support of qualifications for Matriculation School Leaving, graduation, post-graduate examinations as also for Doctorate Degree be attached to the application. Canvassing in any form will disqualify the candidate.

Application forms, alongwith detailed qualifications can be obtained from the Cashier, Panjab University, Chandigarh, personally on payment of Rs. 2/- or by making a written request to the Deputy Registrar (Estt.), Panjab University, accompanied by self-addressed stamped envelope of 23x10 cms and postal order of Rs. 2/- drawn in favour of the Registrar, Panjab University, Chandigarh.

FOR DETAILS SEE INSTRUCTIONS FOR CANDIDATES ENCLOSED WITH THE APPLICATION FORM.

KUMAUN UNIVERSITY NAINITAL CORRIGENDUM

In the advertisement No. 1736 dated 26-2-86 of Kumaun University, Nainital, the post of Lecturers Physics at Sl. No. 12 should be read as 1R & 2LV instead of 1R and the required specializations as Quantum Field Theory/Particle Physics/Nuclear Physics/Solid State Physics. The last date for receiving applications for all posts is extended upto 25 APRIL, 1986. Those who have already applied in response to advertisement No. 1199 dated 25-11-85, need not apply again.

REGISTRAR